ORIGINAL RESEARCH PAPER
Volume - 12 | Issue - 02 | February - 2023 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

RETRORECTAL TUMORS –A CASE SERIES

General Surgery

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ABSTRACT

Objective: Retro-rectal tumors are uncommon lesions that present with non-specific signs and symptoms, making the diagnosis of these tumors very difficult. We present significant number of cases in view of scarce information available on this matter. **Methods:** 5 patients were treated at SVS Medical College and hospital 2018 to 2022. The case notes of patients who underwent surgery for a retro-rectal tumor were reviewed retrospectively. Surgical histories, operations, histological tumor type, surgical time, weight of the specimen, blood loss, length of stay were analyzed. **Results:** 4 patients underwent laparotomy, 1 patient had combined perineal approach and laparotomy. The most common types of the tumor were fibroma (2 cases), dermoid tumor (2 cases), tail gut cyst (1case). 80% of the patients had undergone at least one operation prior to definitive treatment. 5 female patients were initially admitted under surgery. Hospital stay varied from 9 days to 14 days (mean 11 days). A report of a representative case is presented. **Conclusions:** Retro-rectal lesions in female patients can mimic gynecological pathology. Patients with this rare pathology are to be treated in a major tertiary hospital by surgeons, who are able to operate safely in the retro-rectal space.

KEYWORDS

retro-rectal tumor, rare case, females, laparotomy.

INTRODUCTION

Retro-rectal tumors (pre-sacral, pre-coccygeal tumors) are rare lesions with late manifestations. The true incidence is masked by the fact that most of the studies were conducted in the tertiary referral centers and reported incidence may be much higher in general population.

Retro-rectal space, also referred as pre-sacral space, is bounded by, fascia propria of rectum and iliac vessels anteriorly, pre sacral fascia posteriorly, ureters being found laterally. The peritoneal reflection of rectum forms roof of pre-sacral space. Anatomically, divided by recto-sacral fascia into superior and inferior portions. The floor of retro-rectal space is formed by fusion of pre-sacral parietal fascia rectal visceral fascia and lies above the levator-ani muscle at ano-rectal junction. Heterogenous embryologic structures develop and involute adjacent to the retro rectal space, consequently leaving this area a potential site for a variety of both benign and malignant lesions.

Retro rectal tumors are classified to congenital, neurogenic, inflammatory, osseous and miscellaneous. Congenital lesions are most prevalent type, accounting for 55-65%, neurogenic tumors constitute 10-12%, inflammatory 5%, osseous 5-11%, miscellaneous 12-16%.

Table 1: Classification Of Retrorectal Tumors

CONGENITAL TUMORS

The most common congenital retro-rectal regions are diagnosed in females [2]. These tumors arise from abnormal closure of ectodermal tube and are lined with squamous epithelium with or without skin appendages [9]. Tail gut cysts are less common they are derived from tail gut remnants the precursor of gastro intestinal system. Malignant degeneration of tail gut cysts associated carcinoembryonic antigen level reported in literature [10].

The clinical presentation of developmental cysts is often nonspecific, ranging from asymptomatic to severe sacro-coccygeal pain, Usually caused by infected malignant cysts [2,6]. Late manifestations of these lesions can present as chronic constipation [11], pelvic outlet obstruction during labour[12].Clinical examination, revealing midline postanal dimples, immediately below the dentate line, suggest the presence of developmental cyst. They have been documented in 35 to 100 percent of patients [1, 14, 15]. Digital rectal examination can prove diagnosis in more than 90% of the cases [2, 7, 15]. Chordoma is the most common malignant retro-rectal mass, arising from remnants of the notochord [16]. Chordomas are slow-growing, locally invasive tumors that can reach large size before causing symptoms, such as low-back or sciatic pain, constipation, or lower-extremity paresis. Imaging will show a lytic lesion with a large soft-tissue mass [17]. Anterior sacral meningocele is a spinal fluid-filled sac in the pelvis communicating by a small neck with the spinal subarachnoid space through a defect in the sacrum. Headaches associated with defecation, recurrent meningitis or symptoms relating to mass effect indicate presence of anterior sacral meningocele [2].

NEUROGENIC AND OSSEOUS TUMORS

Osseous and neurogenic tumors make 20 to 30% of primary retro-rectal tumors [6]. Due to compression or invasion of nearby neurological structures, the location of pain often follows radicular distribution [20]. Biological behaviour of osseous tumors is similar to bony tumors in other anatomic locations, with sarcomas having a predisposition for hematogenous spread to the lungs. All osseous masses have to be completely excised because of the high rate of recurrence [3]. Neurogenic lesions arise from nerve plexuses adjacent to retro-rectal space. Lower back pain is typical clinical presentation, as well as other pelvic mass effect symptoms [21, 22].

INFLAMMATORY AND MISCELLANEOUS LESIONS

Inflammatory lesions arise from infection source below (perineal abscesses spreading superiorly to the supralevator space) or above (pelvic abscesses caused by diverticulitis, Crohn's or other intra-abdominal infection). They are not mentioned in several larger series, which makes their overall prevalence difficult to assess. Miscellaneous lesions include tumors found elsewhere in the retroperitoneum, including metastatic disease (most commonly from the rectum), sarcomas, carcinoid tumors.

MATERIALS AND METHODS

Five patients were treated at SVS hospital FROM 2018-2022 . The case notes of patients who underwent surgery for a retro rectal tumor were reviewed retrospectively. The patients were comprised of 5 females with an age range of 35-65 years. Computed tomography (CT) was used to determine the infiltration of the tumor, the relation to other

pelvic structures and possible malignant spreading. Magnetic resonance imaging (MRI) was used in addition to CT. Based on CT and MRI findings surgical plan was made for tumor removal. Tumors extending above S3 were extirpated using abdominal approach, whereas extension below S3 required perineal or combined approach. Surgical histories, operations, histological tumor type, surgical time, weight of the specimen, blood loss, length of stay of 5 patients were analyzed.

RESULTS

Patients underwent laparotomy, 1 patient had combined perineal approach and laparotomy. The most common types of the tumor were fibroma (2 cases), dermoid tumor (2 cases) and tailgut cyst (1 case) Tumor weight was from 300 g to 650 g .Blood loss was from 300 ml to 500 ml. Time required for the surgery ranged from 3 hours to 5 hours. Hospital stay varied from 9 days to 14 days. 2 female patients were initially admitted under gynecology. There was no perioperative mortality. There were two cases with post-operative wound infections.

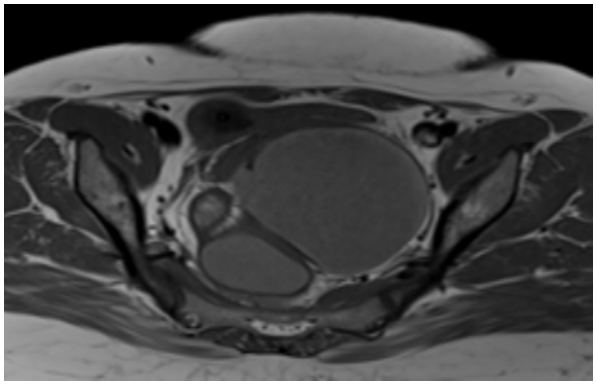

Figure :2 T2STIR

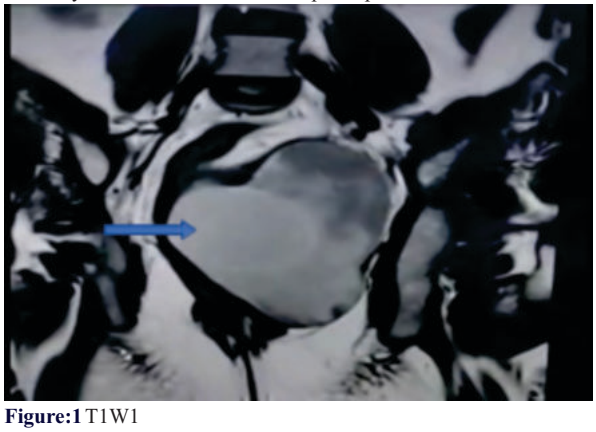

Figure:1 T1W1

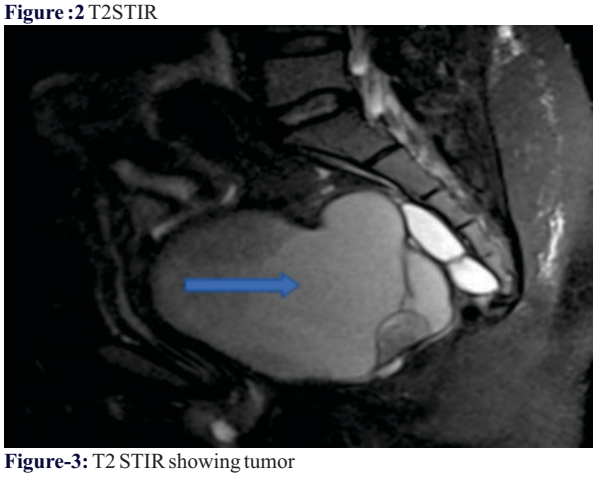

Figure-3: T2 STIR showing tumor

Table-no:2 Results

NO	AGE	SEX	SURGERY DONE	HISTOLOGY	TIME	WT.OF SPECIMEN	BLOOD LOSS	STAY	NO.OF PREVIOUS SURGERIES
1	47	F	LAPAROTOMY	DERMOID TUMOR	3.5 HRS	300 GMS	400 ML	10 DAYS	0
2	35	F	LAPAROTOMY	TAILGUT CYST	4 HRS	600 GMS	300 ML	12 DAYS	1
3	37	F	LAPAROTOMY	FIBROMA	4 HRS	430 GMS	350 ML	9 DAYS	1
4	52	F	PERINEAL APPROACH + LAPAROTOMY	FIBROMA	3 HRS	650 GMS	500 ML	10 DAYS	1
5	41	F	LAPAROTOMY	DERMOID TUMOR	4.2 HRS	370 GMS	400 ML	14 DAYS	1

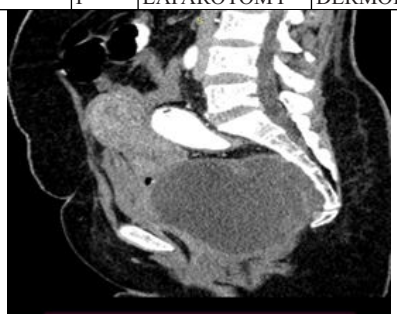

Figure-4:CT showing tumor in saggital view

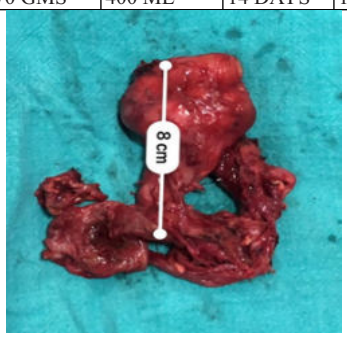

Figure-6: Gross specimen showing tumor.

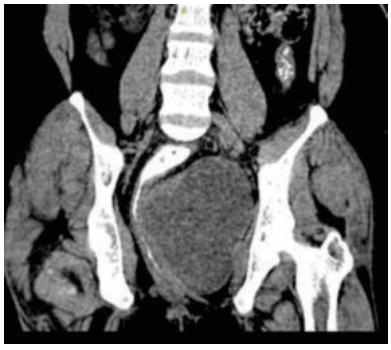

Figure-5: CT showing tumor in coronal view

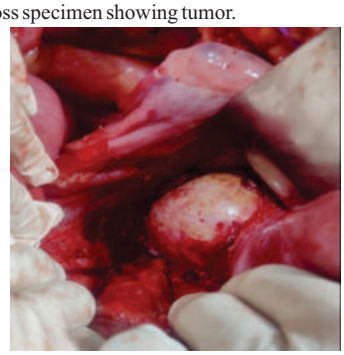

Figure-7-Intra OP image showing tumor

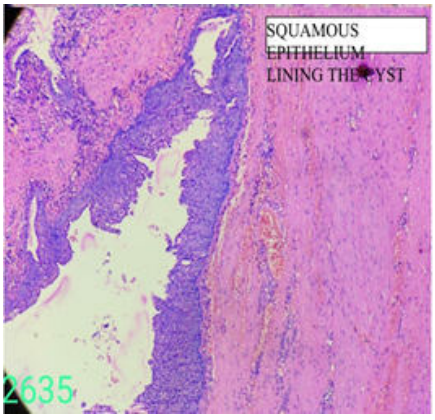

Figure-8: Tailgut cyst wall.

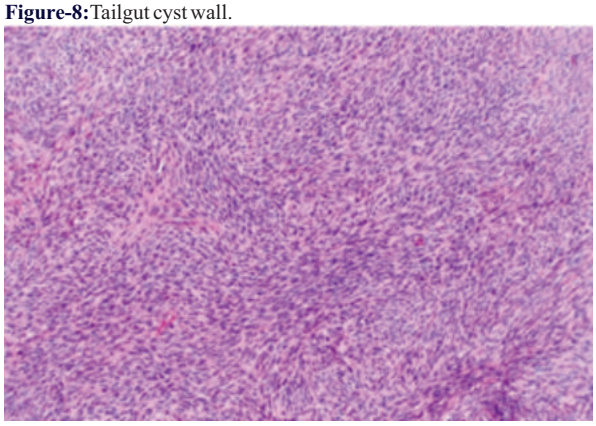

Figure-10: Fibroma histopathological image

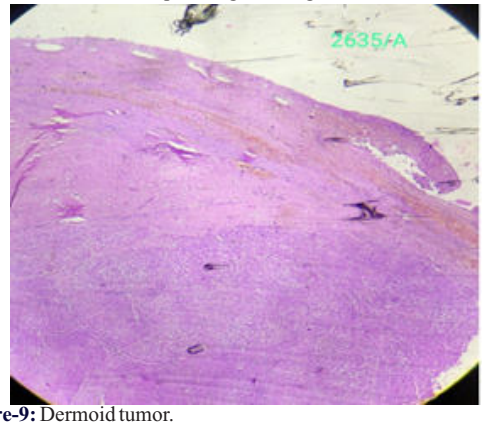

Figure-9: Dermoid tumor.

DISCUSSION

As the retro-rectal tumors the literature is limited to individual case reports, only a few large case series are present. Our study presents significant number of cases in view of scarce information available on this matter. Clinical examination plays a vital role in diagnosing retro-rectal tumors. Plain abdominal x-rays may reveal solid tumors compressing, invading, or displacing the sacrum on the x-ray. A CT scan of the pelvis can distinguish cystic from solid lesions and assess for sacral involvement or invasion to adjacent structures. MRI shows soft-tissue planes, evaluates the presence or absence of bony invasion and nerve involvement. Preoperative imaging plays a key role in planning the surgical treatment. Surgical treatment is based on the size of the tumor, its rostral and caudal extent, involvement of visceral structures and sacrum, features of malignancy on imaging studies .If the tumor is above S3 level, abdominal approach is recommended. Tumors below S3 can be extirpated using perineal approach, as it results in a quicker recovery .For very low lying lesions inter-sphincteric posterior approach for preservation of good sphincter function is recommended .Visceral or sacral involvement requires abdominal or combined approach irrespective to tumor level. Most of the tumors in our study were above S3 level; therefore laparotomy was used in almost all of the operation. Alternative operative methods include trans rectal , trans-vaginal approaches. There are reports of successful use of laparoscopy and trans-anal endoscopic microsurgery for retro-rectal tumors .Postoperative recovery was complicated by wound infection in 2 of the patients in our study. Large proportion of patients in our study had undergone surgical interventions before definitive surgical treatment .Retro-rectal lesions in female patients can mimic gynecological pathology. Misdiagnosis could be avoided by performing digital rectal examination when there are unexplained gynecological symptoms. Due to proximity of retro- rectal space and the genitourinary organs, pre sacral tumors are often dealt by specialists of other surgical fields. Patients with this rare pathology are to be treated in a major tertiary hospital by surgeons, who are able to operate safely in the retro-rectal space.

CONCLUSION

Retro-rectal lesions in female patients can mimic gynecological pathology. Patients with this rare pathology are to be treated in a major tertiary hospital by surgeons, who are able to operate safely in the retro-rectal space.

REFERENCES

1. uhlig BE, Johnson RL. Presacral tumors and cysts in adults. Dis Colon Rectum 1975; 18:581-9.
2. Jao Sw, Beart Rw Jr, Spencer RJ, Reiman HM, IlstrupDM. Retrorectal tumors. Mayo Clinic experience, 1960-1979. Dis Colon Rectum 1985; 28: 644-52.
3. Hobson kG, Ghaemmaghami v, Roe JP, Goodnight JE, khatri JP. Tumors of the retrorectal space. Dis Colon Rectum 2005; 48: 1964-74.
4. Spencer RJ, Jackman RJ. Surgical management of precoccygeal cysts. Surg Gynecol Obstet 1962; 115:449-52.
5. Garcia-Armengol J, Garcia-Botello S, Martinez-Soriano F et al. Review of the anatomic concepts in relation to the retrorectal space and endopelvic fascia: waldeyer's fascia and the rectosacral fascia. Colorectal Dis 2008; 10 (3): 298-302
6. Glasgow SC, Birnbaum EH, Lowney Jk, et al. Retrorectal tumors: a diagnostic and therapeutic challenge. Dis Colon Rectum 2005; 48:1581-1587
7. Bohm B, Milsom Jw, Fazio vw, Lavery IC, Church JM,Oakley JR. Our approach to the management of congenital presacral tumors in adults. Int J Colorectal Dis 1993; 8:134-8.
8. Stewart RJ, Humphreys wG, Parks TG. The presentation and management of presacral tumours. Br J Surg 1986; 73:153-5.
9. Hjermstad BM, Helwig EB. Tailgut cysts. Report of 53 cases. Am J Clin Pathol 1988; 89(2):139-47
10. Cho BC, kim Nk, Lim BJ et al. A carcinoembryonic antigen-secreting adenocarcinoma arising in tailgut cyst: clinical implications of carcinoembryonic antigen. yonsei Med J, 2005; 46(4):555-61
11. Paramythiotis D, Papavramidis TS, Michalopoulos A, Papadopoulos vN, Apostolidis S, Televantou D, Hytiroglou P. Chronic constipation due to presacral teratoma in a 36-year-old woman: a case report. J Med Case Reports. 2010; 4:23.
12. Sobrado Cw, Mester M, Simonsen OS, Justo CR, deAbreu JN, Habr-Gama A. Retrorectal tumors complicating pregnancy. Report of two cases. Dis Colon Rectum 1996; 39:1176-9.
13. Haribhakti SP, Choudhary CG, Sikora SS. Malignant retrorectal teratoma presenting as an infected perianal sinus. Trop Gastroenterol 1995; 16(2):117-8
14. Singer MA, Cintron JR, Martz JE, et al. Retrorectal cysts: a rare tumor frequently misdiagnosed. J Am Coll Surg 2003; 196:880-886
15. Edwards M. Multilocular retrorectal cystic disease-cysthamartoma: report of twelve cases. Dis Colon Rectum 1961; 4:103-10
16. Cody HS III, Marcove RC, Quan SH. Malignant retrorectal tumors: 28 years' experience at Memorial Sloan-kettering Cancer Center. Dis Colon Rectum 1981; 24: 501- 506
17. Fourney DR, Gokaslan ZL. Current management of sacral chordoma. Neurosurg Focus 2003; 15(2): 1-5
18. Anderson FM, Burke BL. Anterior Sacral Meningocele. A presentation of three cases. JAMA. 1977 Jan 3;237(1):39- 42.
19. Amornfa J, Taecholarn C, khaoroptham S. Currarino syndrome: report of two cases and review of the literature. J Med Assoc Thai. 2005 Nov;88(11):1697- 702.
20. Payer M: Neurological manifestation of sacral tumors. Neurosurg Focus 15(2):E1, 2003
21. witherspoon P, Armitage J, Gatt M et al. Laparoscopic excision of retrorectal schwannoma. Dis Colon Rectum. 2010 Jan; 53(1):101-3.
22. Sciubba DM, Petteys RJ, Garces-Ambrossi GL, Noggle JC, McGirt MJ, wolinsky JP, witham TF, Gokaslan ZL. Diagnosis and management of sacral tumors. J Neurosurg Spine. 2009 Mar;10(3):244-56.
23. Glasgow SC, Dietz Dw. Retrorectal tumors. Clin Colon Rectal Surg. 2006; 19(2):61-8.
24. verazin G, Rosen L, khubchandani IT et al. Retrorectal tumor: is biopsy risky? South Med J. 1986 Nov; 79(11):1437-9.
25. Bergh P, kindblom LG, Gunterberg B, Remotti F, Ryd w, Meis-kindblom JM. Prognostic factors in chordoma of the sacrum and mobile spine: a study of 39 patients. Cancer. 2000 May 1;88(9):2122-34. May 12, 2011 EuROPEAN JOuRNAL OF MEDICAL RESEARCH 235
26. Abel ME, Nelson R, Prasad ML, Pearl Rk, Orsay CP, Abcarian H. Parasacrococcygeal approach for the resection of retrorectal development cysts. Dis Colon Rectum 1985; 28: 855-858.
27. Buchs N, Taylor S, Roche B. The posterior approach for low retrorectal tumors in adults. Int J Colorectal Dis. 2007 Apr;22(4):381-5.
28. Pidala MJ, Eisenstat TE, Rubin RJ, Salvati EP. Presacral cysts: transrectal excision in select patients. Am Surg 1999 65:112-115
29. Aslan E. Transvaginal excision of a retrorectal tumor presenting as rectocele. Erdogan Aslan Int urogynecol J Pelvic Floor Dysfunct. 2008 Dec; 19(12):1715-7.
30. Gunkova P, Martinek L, Dostalik J, Gunka I, vavra P, Mazur M. Laparoscopic approach to retrorectal cyst. world J Gastroenterol. 2008 Nov; 14(42):6581-3.
31. Chen y, xu H, Li y, Li J, wang D, yuan J, Liang Z. Laparoscopic resection of presacral teratomas J Minim Invasive Gynecol. 2008 Sep-Oct;15(5):649-51.
32. Zoller S, Joos A, Dinter D, Back w, Horisberger k, Post S, Palma P. Retrorectal tumors: Excision by transanal endoscopic microsurgery Rev Esp Enferm Dig. 2007 Sep; 99(9):547-50. Received: May 12, 2010 / Accepted: July
33. Strupas K, Poskus E, Ambrazevicius M. Retrorectal tumours: literature review and vilnius university hospital "santariskiu klinikos" experience of 14 cases. Eur J Med Res. 2011 May 12;16(5):231-6. doi: 10.1186/2047-783x-16-5-231. PMID: 21719397; PMCID: PMC3352196.